



Europäisches Patentamt
European Patent Office
Office européen des brevets

(11) Publication number:

0 142 988
A3

(12)

EUROPEAN PATENT APPLICATION

(21) Application number: 84307943.5

(51) Int. Cl. 4: B 62 D 5/06

(22) Date of filing: 15.11.84

(30) Priority: 15.11.83 JP 213198/83

(43) Date of publication of application:
29.05.85 Bulletin 85/22

(86) Date of deferred publication of search report: 23.04.86

(84) Designated Contracting States:
DE FR GB IT

(71) Applicant: MITSUBISHI DENKI KABUSHIKI KAISHA
2-3, Marunouchi 2-chome Chiyoda-ku
Tokyo 100(JP)

(72) Inventor: Morishita, Mitsuhiro
1344-195, Uchikoshi
City of Himeji Hyogo Prefecture(JP)

(72) Inventor: Kouge, Shinichi
727-361, Mitachi
City of Himeji Hyogo Prefecture(JP)

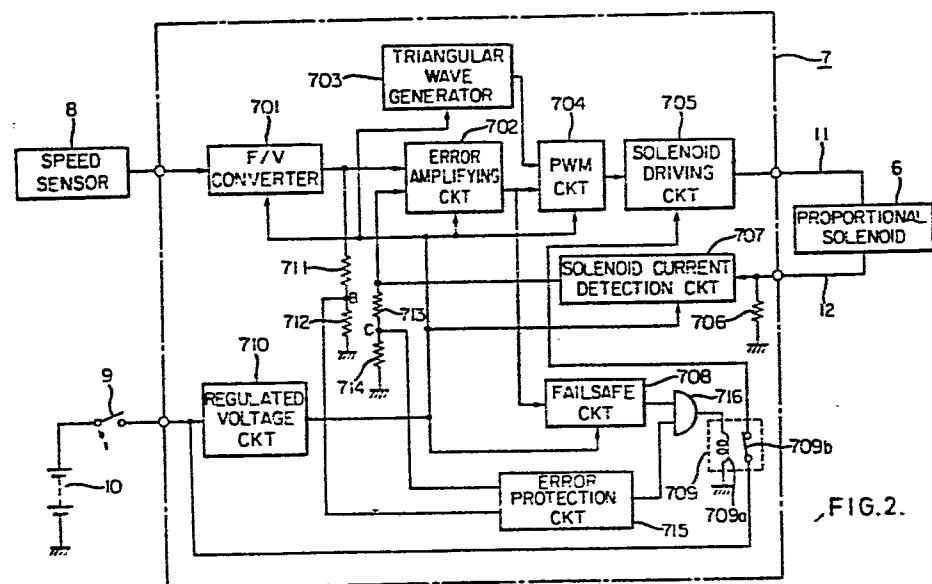
(74) Representative: Lawson, David Glynne et al,
MARKS & CLERK 57-60 Lincoln's Inn Fields
London WC2A 3LS(GB)

(54) **Power steering control apparatus.**

(57) A power steering control apparatus for a car in which, under normal conditions, the steering becomes heavy as the speed of the car increases, for safety. This is realized by means of a hydraulic valve 5 controlled by the reaction oil pressure of a proportional solenoid 6 in the steering mechanism. In an abnormal condition such as a shortcircuit between solenoid coils or the failure of an electric control circuit 7, the proportional solenoid is deenergized through a failsafe circuit 708 due to the fact that a feedback signal from the solenoid has become zero and the error, with a high amplification gain, between the car speed inverse-proportional signal and the feedback signal has exceeded a first predetermined value. On the occasion of a voltage reduction of the power source for the electric control circuit e.g. on starting, and/or on increased temperature of the proportional solenoid, the failsafe circuit 708 is disabled by an error protection circuit 715 only when the difference between the car speed inverse proportional signal and the reduced feedback signal exceeds a second predetermined value.

EP 0 142 988 A3

.../...





DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int Cl 4)
A	EP-A-0 075 738 (Z.E.) ---		B 62 D 5/06 B 62 D 6/02 B 62 D 5/30
A	PATENTS ABSTRACTS OF JAPAN, vol. 8, no. 240 (M-336) [1677], 6th November 1984; & JP - A - 59 120 571 (KAYABA KOGYO K.K.) 12-07-1984 ---		
A	PATENTS ABSTRACTS OF JAPAN, vol. 8, no. 152 (M-309) [1589], 14th July 1984; & JP - A - 59 48 264 (TOYO KOGYO K.K.) 19-03-1984 ---		
A	PATENTS ABSTRACTS OF JAPAN, vol. 8, no. 148 (M-308) [1585], 11th July 1984; & JP - A - 59 45 266 (NISSAN JIDOSHA K.K.) 14-03-1984 ---		
A,D	GB-A-2 041 303 (BOSCH) & JP - A - 55 94 854 ---		B 62 D
A,D	FR-A-2 435 379 (BOSCH) & JP - A - 55 39 892 ---	-/-	
<p>The present search report has been drawn up for all claims</p>			
Place of search THE HAGUE	Date of completion of the search 17-01-1986	Examiner PIRIOU J.C.	
CATEGORY OF CITED DOCUMENTS		T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons & : member of the same patent family, corresponding document	
X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure P : intermediate document			



EUROPEAN SEARCH REPORT

0142988

Application number

EP 84 30 7943

Page 2

DOCUMENTS CONSIDERED TO BE RELEVANT			CLASSIFICATION OF THE APPLICATION (Int. Cl. 4)
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	
A	PATENTS ABSTRACTS OF JAPAN, vol. 7, no. 24 (M-189) [1169], 29th January 1983; & JP - A - 57 178 972 (NISSAN JIDOSHA K.K.) 04-11-1982 ---- A DE-A-2 948 228 (KOYO SEIKO)		
A	US-A-4 077 490 (CASTERTON) ----		
			TECHNICAL FIELDS SEARCHED (Int. Cl. 4)
The present search report has been drawn up for all claims			
Place of search THE HAGUE	Date of completion of the search 17-01-1986	Examiner PIRIOU J.C.	
CATEGORY OF CITED DOCUMENTS		T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons & : member of the same patent family, corresponding document	
X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure P : intermediate document			